Notice of Allowability	Application No.	Applicant(s)	
	10/770,513	BERGLOW ET AL.	
	Examiner	Art Unit	
	Erica E Cadugan	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *dkt no. 024445-448, filed 2/4/2004 and interview of 6/7/2005*.

2. ☒ The allowed claim(s) is/are *1-11 and 13*.

3. ☒ The drawings filed on *04 February 2004* are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 7/2/04 & 2/4/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Alan Kopecki on June 7, 2005.

3. The application has been amended as follows:

Paragraph 0010 of the specification has been amended as follows:

0010] Below, embodiments of the invention will be described, reference being made to the appended drawings, where

Fig. 1 shows an embodiment of a tool according to the present invention in an assembled state, partly in cross-section, in engagement with a workpiece;

Figs. 2A and 2B show side views of an embodiment of a milling cutter according to the present invention;

Fig. 2C shows the milling cutter in an end view;

Fig. 2D shows the milling cutter in perspective view;

Fig. 2E shows a part of the milling cutter in cross-section according to the line E-E in Fig. 2C;

Figs. [4A] 3A and [4B] 3B show side views of an alternative embodiment of a milling cutter according to the present invention, in more detail;

Fig. [4C] 3C shows the milling cutter in an end view; and

Fig. [4D] 3D shows the milling cutter in a perspective view.

The claims have been amended as follows:

Claim 1 (Currently Amended). A milling cutter comprising a body having three cutting edges formed by the body, and a fastening end, each cutting edge being continuously curved from an outer periphery of the body substantially to a center rotational axis of the body along a substantially convexly curved path, wherein radially outer and radially inner ends of each cutting edge being situated axially rearwardly of an axially foremost point of the cutting edge, each cutting edge lying substantially on a respective imaginary sphere having a center spaced from the cutting edge in a direction toward the fastening end and spaced radially from the center axis;

each cutting edge defined by an intersection of a clearance surface and a chip surface of the body, each clearance surface being convexly arch-shaped and having two radially-extending clearance edges that continuously converge towards one another as they extend from the outer periphery substantially to the axis as viewed along the axis.

Claim 6 (Currently Amended). The milling cutter according to claim 1 where the body comprises cemented carbide[; each cutting edge defined by an intersection of a clearance surface and a chip surface of the body, each clearance surface being convexly arch-shaped].

Claim 8 (Currently Amended). The milling cutter according to claim 1 wherein the body includes a conical shank forming a hook, the hook defining the [cutting] fastening end.

Claim 10 (Currently Amended). The milling cutter according to claim [9] 1 wherein the radially outer ends of the cutting edges lie in an imaginary cylindrical extension of an envelope surface of the shank, and lie radially outside of a cylindrical portion of the body interconnecting the shank with the cutting edges.

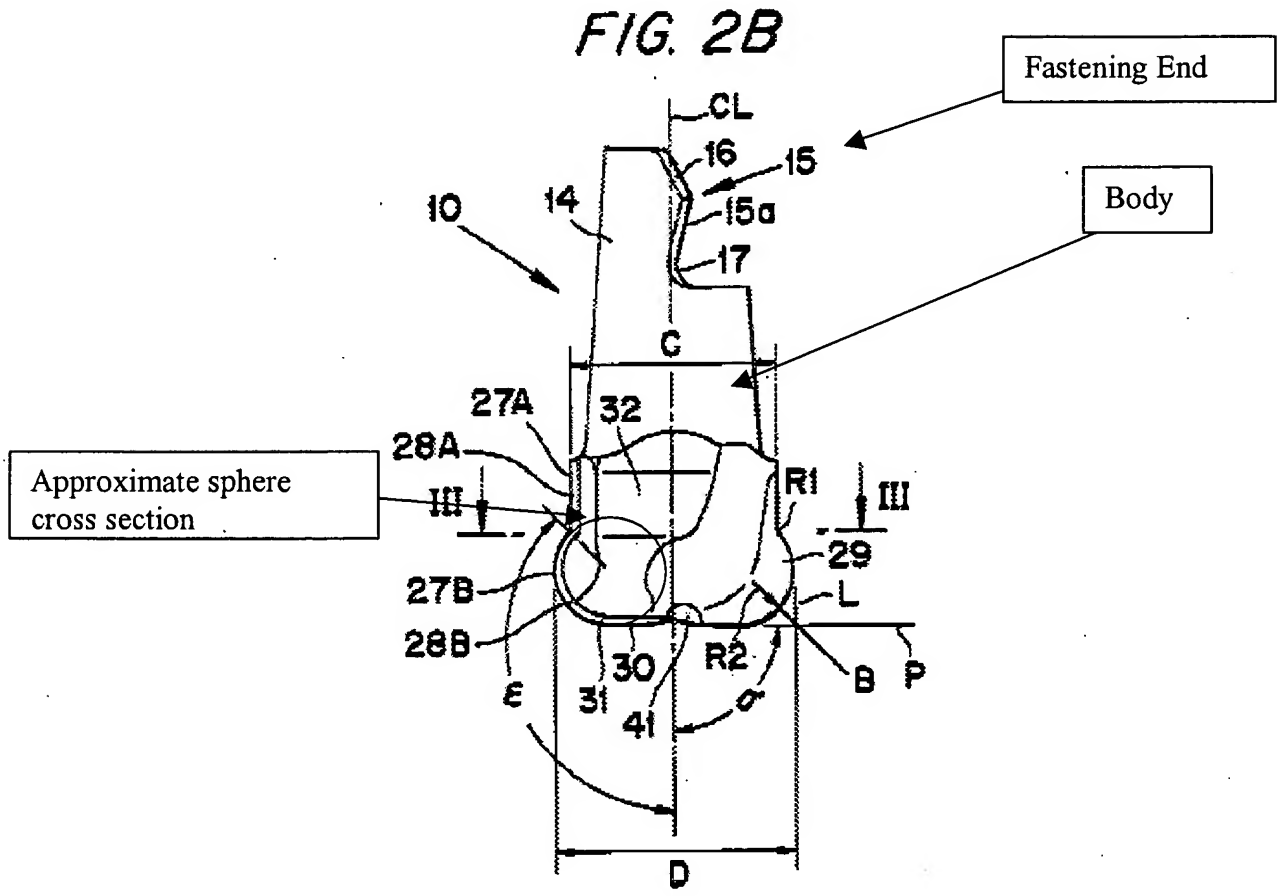
Claim 12 has been canceled.

Claim 14 has been canceled.

4. The following is an examiner's statement of reasons for allowance:

U.S. Pat. No. 5,964,555 to Strand is a representative example of the closest prior art of record to the present invention as set forth in the independent claim 1.

Note that U.S. Pat. No. 5,964,555 to Strand teaches a milling cutter. See the reproduction of Figure 2B shown below.



Note that Strand teaches major cutting edges (27A+27B= major cutting edge), and explicitly teaches that there can be three such cutting edges (col. 2, lines 20-21, for example).

Note that the radially innermost portion of the major cutting edges is located "axially rearwardly of an axially foremost point of the cutting edge" (see Figure 2B illustrated above). Also, each major cutting edge lies "substantially" on a "respective imaginary sphere" having a center spaced from the cutting edge as claimed. The approximate sphere cross-section is illustrated in the above reproduction of Figure 2B. (Note also that the major cutting edges are continuous with the minor cutting edges 30, which minor cutting edge extends "substantially" to the center rotational axis.)

Note also that the cutting edges are located at the intersection of a chip surface 29 and a clearance surface 28B (Figure 3, Figure 2B, also col. 2, lines 21-26). Note also that the clearance surfaces 28B are "convexly arch-shaped" as viewed in Figure 2B.

Strand also teaches that each clearance surface has two radially-extending clearance edges as labeled in the reproduction of Figure 4 below.

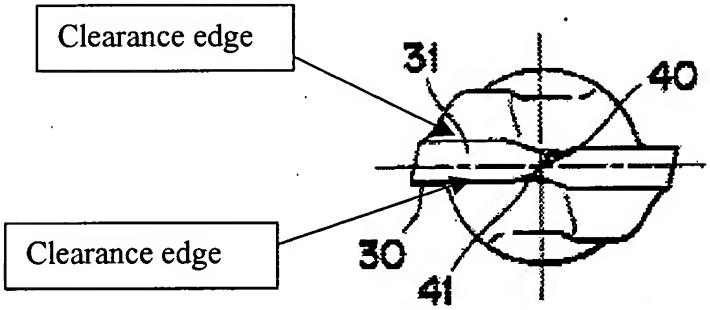


FIG. 4

Note that the clearance edges extend from the outer periphery of the body substantially to the rotational axis (see Figure 4). Further note that these edges extend parallel to one another for part of the distance between the outer periphery of the body and the axis before converging towards one another at a point close to the axis.

Thus, these edges do not "**continuously converge** towards one another as they extend from the outer periphery substantially to the axis as viewed along the axis" (because of the large parallel extension area described previously).

Thus, for at least this reasoning, Strand does not anticipate the present invention as set forth in independent claim 1.

Additionally, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of Strand, and thus; for at least this reasoning, Strand does not render obvious the present invention as set forth in independent claim 1.

Strand being a representative example of the closest prior art of record to the present invention as set forth in the independent claim, the prior art of record neither anticipates nor renders obvious the present invention as set forth in the independent claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E Cadugan whose telephone number is (571) 272-4474. The examiner can normally be reached on M-F, 7:30 a.m. to 5:00 p.m., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris H. Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erica E Cadugan
Primary Examiner
Art Unit 3722

eec
June 7, 2005